

## IMPROVED ULTRASONIC CLEANING DEVICE

### ABSTRACT OF THE DISCLOSURE

A cleaning device for cleaning an object includes an inner vessel configured to  
5 contain a first liquid and the object. The cleaning device also includes an external  
vessel configured to contain a second liquid and the inner vessel. The second liquid  
is acoustically coupled to the first liquid. At least one transducer is acoustically  
coupled to the external vessel and configured to generate acoustical energy which is  
transferred to the object through the external vessel, a second liquid, the inner vessel  
10 and the first liquid. The first liquid has a dissolved gas concentration of a first gas  
and the second liquid has a dissolved gas concentration of a second gas.